

REMARKS/ARGUMENTS

Claim 3 is amended to incorporate the limitation that the dispersed polymer has an average size of at least 1 micron. This limitation is supported in the specification as filed, for example in original claim 16 and at page 8, line 6 of the specification. Claim 16 is cancelled as being superfluous in light of the amendment to claim 3. As such, these amendments do not add new matter. Therefore it is respectfully submitted that their entry is proper.

The Applicants sincerely thank the Examiner for participating in a telephonic interview with the Applicant's representative, James Hoppe, on July 22, 2009. During that interview, the prior art previously made of record and the above amendment were discussed. No final agreement as to patentability was reached, although the Examiner acknowledged that incorporating the particle size limitation into the independent claim would help to distinguish the claims from the prior art.

Claims 3, 4, 8, 10-15, and 19 remain pending in the present application. These claims are rejected under 35 USC § 103(a) as being unpatentable over Gessner (US 5,108,827 in light of Newkirk (WO 01/49908). As explained in the present application, a goal of the present invention is to produce fibers to allow fabrics with cloth-like aesthetics. To this end, it has been discovered that it is beneficial if small protuberances can be placed on the fiber so that the fiber has an irregular surface. In the present invention such surface irregularities are provided by having the sheath portion of a core-sheath bicomponent fiber (i.e. the portion which makes up the fiber's surface), be made from a polymer mixture having a continuous phase and a dispersed phase. It is believed that if the interfacial tension between the two phases is as recited in the claims, then the dispersed phase will form particles which will cause the surface irregularities. The independent claim (claim 3) further requires the average particle size to be larger than the thickness of the sheath such that the particles will have to form protuberances. Further, the present amendment now requires that the average particle size of the dispersed polymer be greater than 1 micron. Particles of this size are more likely to form protuberances and thus it is believed that they are more likely to have cloth-like haptics. Dependent claims 4 and 12-16, are directed to preferred

ways of optimizing the conditions so that this desired result may be more likely achieved.

In addition to the previous arguments which pointed out that Gessner did not pertain to a sheath-core bicomponent fiber, and neither Gessner nor Newkirk gave any suggestion that there was any reason to select materials such that the average size of the particles are bigger than the thickness of the sheath, neither of these references gives any reason why a person of ordinary skill in the art would try to make the dispersed particles at least 1 micron, as now required by the claims. Gessner teaches that its noncontinuous phase should have a mean cross-sectional area “less than $1/1000^{\text{th}}$ of the cross-sectional area of the fiber” (col. 3, lines 13-14), while the fiber should have a fineness of “5 to 50 microns” (col. 2, line 1). Thus Gessner teaches that the dispersed particles should have a particle size no larger than 0.05 microns, 20 times less than the value now claimed. Newkirk is silent as to the preferred particle size, although the photomicrographs in Figures 7-9 appear to indicate that the non-continuous phase is much smaller than a micron.

In the Response to Arguments section of the Office Action dated June 24, 2009, the Examiner has asserted that, “it would have been obvious during routine experimentation to modify and adjust the particle size as well as the thickness of the sheath commensurate on the desired properties of the end product, for example, properties such as the softness and/or hand of the fibers, or for increased roughness, surface area, etc.” Applicants point out that there is no indication in any art presently of record that it was known that softness or hand is correlated to rough fibers, and that no other reason is provided why a person of ordinary skill in the art would desire rough fibers. Further even if there were such an indication there’s no reason that someone trying to develop rough fibers would go about it in the same way as the Applicants. As such, there is no reason why a person of ordinary skill in the art would conduct routine optimization or the particle size of the particles themselves or the ratio of particle size to sheath ratio.

Accordingly, based upon the above amendments and remarks, Applicants respectfully submit that the present claims of record are patentable over the art of record, and therefore courteously request that the rejections be withdrawn and the case passed to allowance.

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Reply to Office Action of June 24, 2009

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